REMARKS

This amendment is responsive to the Office Action dated February 22, 2005. Claims 1, 2, 14 and 15 have been amended. Claims 1 through 24 are now pending in this application.

The specification was objected to for an informality and has been amended to overcome the Examiner's objection.

Claims 14 and 15 were objected to and have been amended to overcome the Examiner's objection. Claims 13-24 as presented should now be allowable.

Claims 1-3, 5-7 and 11-12 were rejected under 35 U.S.C. 102(b) as being anticipated by Floyd et al., U.S. Patent 6,416,158. The Applicant respectfully disagrees. Claim 1 recites in pertinent part, a first gating electrode (proximate a first side of the aperture), a second gating electrode (proximate a second side of the aperture), and a third gating electrode (in the gas channel). The first phase, second phase and third phase (of the first, second and third voltage sources respectively connected to corresponding first, second and third gating electrodes) are sequenced to energize the first gating electrode, the second gating electrode and the third gating electrode in consecutive series. The features of claim 1 are not disclosed in Floyd.

Floyd discloses a ballistic aerosol marking device (24) having a cavity (28), a port (44), a channel (46) and a stacked electrode structure (102) having a minimum of three electrodes (col. 9 l. 53-57 and col. 12 l. 6-10).

The electrode structure (102) located within the port (42) walls is between cavity (28) and channel (46) and terminates at an injection port (104) in channel (46) (col. 9 l. 57-64 and col. 12 l. 6-10, see also Fig. 9A). In Fig. 9A, Floyd discloses an electrode structure with three electrodes (90a, 90b, 90c). Each electrode in the electrode structure (102) is connected to driving circuitry (106). In particular, each electrode (108a, 108b, 108c) of the electrode structure in the port (42) is connected to a corresponding voltage source with corresponding phased input (Φ_1, Φ_2, Φ_3, see Fig. 10). Floyd discloses that the electrode (108a) near the top (i.e. first side) of the port (42) has input phase Φ_1 and the electrode (108c) near the bottom (i.e. second side) of the port (42) has input phase Φ_3. As seen in Fig. 9A, Floyd discloses an auxiliary electrode (93) located in the channel (46). (The embodiment disclosed in Fig. 12 is similar to that disclosed in Fig. 9A but uses sets (124a, 124b) of three electrodes (126a, 126b, 126c) similar to electrodes (108a, 108b, 108c)).

The clock generator and logic circuitry sequentially provide the phased voltage (Φ_1, Φ_2, Φ_3) to the first, second and third electrodes (108a, 108b, 108c). As seen in Fig. 12, in Floyd the auxiliary electrode (130) in the channel (46) is operated in phase with electrode (126a) (i.e., connected to the voltage source with the same phase input Φ_1 as the top most electrode (126a) in the port structure) (col. 12 l. 22-25). Thus, in Floyd, the top most electrode (126a) in the discharge port (42) and the electrode (130) in the channel (46) are supplied with voltage in a single phase of the three phase cycle. This is contrary to and not what is claimed in Claim 1 of the

present application.

Claim 1 recites in pertinent part, the first phase, second phase and third phase (of the first, second and third voltage sources respectively) are sequenced to energize in consecutive series the first gating electrode (located proximate a first side of the aperture), the second gating electrode (located proximate a second side of the aperture) and the third gating electrode (located in the gas channel). In other words, the electrode proximate the aperture topside, the electrode proximate the aperture bottom, and the electrode in the channel are driven in consecutive series.

Nowhere does Floyd disclose a first gating electrode located proximate a first side of the port (44), a second gating electrode located proximate a second side of the port (44) and a third gating electrode located in the gas channel being energized in consecutive series. The first and third gating electrodes (126a, 126c) in Floyd are located proximate a first and second side of the port (44) while the second electrode (126b) is located in the middle of the port (44). In addition, two of the four electrodes (130 and one of either 126a, 126b or 126c) in Floyd will be supplied with voltage at the same time (col. 12 l. 22-25). Thus, even if the channel electrode (130) is in phase with either the middle electrode (126b, Φ_2) or bottom electrode (126c, Φ_3), the voltage source of the upper most electrode (126a, Φ_1), the lower most electrode (126c, Φ_3) and the channel electrode (130, Φ_2 or Φ_3,) in Floyd simply cannot be activated in consecutive series as claimed in Claim 1 of the present application.

In particular, the voltage source in Floyd cannot be activated to energize in consecutive series, the first gating electrode (located proximate a first side of the aperture), the second gating electrode (located proximate a second side of the aperture) and the third gating electrode (located in the gas channel). The electrodes in Floyd cannot be consecutively activated as called for in claim 1 of the present application because if the channel electrode (130) is in phase with the second electrode (126b) (located in the middle of port (44)) then the sequence in Floyd would be top electrode (126a), channel electrode (130) and bottom electrode (126c) (this is not the consecutive series top, bottom, channel). If the channel electrode is in phase with the bottom electrode (126c, Φ_3) located on the second side of port (44) then the sequence would be top electrode (126a) and bottom and channel electrodes in phase Φ_3 (which also is not the consecutive series top, bottom, channel). As such, Claim 1 is not anticipated by Floyd and is patentable under 35 U.S.C. 102(b).

Claim 2 is dependent on Claim 1 and should be allowed for the aforementioned reasons. Further, Claim 2 of the present application recites in pertinent part, at least one of the first gating electrode, the second gating electrode or third gating electrode is selectably operable in one of a continuous mode and an on-demand mode.

There is simply no disclosure or suggestion in Floyd that at least one of the first gating electrode, the second gating electrode or third gating electrode is selectably operable in one of a continuous mode and an on-demand

mode. In Floyd, the electrodes (126b, 126c or 108b, 108c) are operated collectively in a phase relationship, and metering of marking material into a desired channel is accomplished by selectively activating electrode (126a or 108a) corresponding to the desired channel (col. 11 l. 55-59). The collective operation of the electrodes (126b, 126c or 108b, 108c) only applies to a matrix array of electrode structures (col. 11 l. 38-41), but it appears that electrode (126a) is operated in an on-demand mode and the electrodes (126b, 126c) may operate in continuos mode. However, there is no disclosure that any one of electrodes (126a, 126b, 126c) can operate in one of a continuous mode and an on-demand mode. Accordingly, Floyd does not anticipate Claim 2.

Claims 3, 5-7 and 11-12 were rejected under 35 U.S.C. 102(b) as being anticipated by Floyd. Claims 3, 5-7 and 11-12 depend from Claim 1. While these dependent claims each contain their own patentable subject matter, these claims should also be allowable at least because they depend from Claim 1, which should be allowable.

Claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al., U.S. Patent 6,416,158 in view of Floyd et al., U.S. Patent 6,328,436. The Applicant respectfully disagrees.

Claim 8 and 9 are dependent on Claim 1 and should be allowed for the aforementioned reasons. Further, Claim 8 recites a traveling wave grid having first, second and third electrodes located within the reservoir, the first (wave grid) electrode connected to the first voltage source, the second (wave grid) electrode connected to the

second voltage source and the third (wave grid) electrode connected to the third voltage source.

The examiner notes that Floyd ('158) does not disclose a traveling wave grid having a first, second and third electrodes within the reservoir.

Floyd ('436) discloses marking material reservoirs (106) divided by vertical walls (104). The vertical walls (104) have embedded electrode structures (108) for transporting marking material to an upper surface (110) of the material reservoir (106) to a port (112) containing an electrostatic valve (116). The electrodes on both sides of the reservoir walls of Floyd ('436) are driven by ganged drivers (col. 10 l. 21-23). By phasing the valve (116), in or out of phase with the horizontal transport surface (110), marking material can be attracted through or repelled from the orifice into the channel (100) (col. 10 l. 27-32). Valve (116) is the stacked electrode structure of Floyd ('158) (col. 10 l. 27-29).

Floyd ('436) does not disclose or suggest a first (wave grid) electrode connected to the first voltage source, a second (wave grid) electrode connected to the second voltage source and a third (wave grid) electrode connected to the third voltage source as claimed in Claim 8 of the present application. There is no disclosure or suggestion that the electrodes forming the traveling wave grid in Floyd ('436) have the same voltage sources as the valve (116). In particular, there is no disclosure in Floyd ('436) of a first (wave grid) electrode being connected to the first voltage source (that is also connected to the first gating electrode), a second (wave

grid) electrode being connected to the second voltage source (that is also connected to the second gating electrode) and the third (wave grid) electrode being connected to the third voltage source (that is also connected to the third gating electrode).

There is no motivation or suggestion to combine Floyd ('158) with Floyd ('436) to obtain the results achieved by Applicant in Claim 8. The wave grid electrodes (108) of Floyd ('436) may be connected to a separate voltage source than the valve electrodes (108a, 108b, 108c or 126a, 126b, 126c, 130) of Floyd ('158). There is simply no disclosure in Floyd ('436) as to the voltage source of either the wave grid electrodes (108) or the valve (116). As such, Claim 8 is patentable under 35 U.S.C. 103(a).

Claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al., U.S. Patent 6,416,158 in view of Floyd et al., U.S. Patent 6,328,436. Claim 9 depends from Claim 8 (which depends from Claim 1). While Claim 9 contains its own patentable subject matter, Claim 9 should be allowable at least because it depends from Claim 8, which should be allowable.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Please charge any fee deficiency arising out from the filing of this amendment to Deposit Account Number **24-0037**.

Respectfully submitted,

5/23/05

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